



Comfort module with two-zone kit



Single-zone comfort module

80HMA

Nominal heating capacity 4-20 kW

Nominal cooling capacity 4-20 kW

The new comfort module range for monobloc inverter heat pumps offers a complete heating system that is easy to design and install.

System controls ensure optimised energy efficiency, using auto-adaptative weather compensation control that constantly monitors the indoor and outdoor climate to optimise the heat pump energy efficiency and deliver perfect indoor climate.

With its improved aesthetics and compactness, combined with new features and options, the new comfort module sets new standards in energy savings and comfort. Using the two-zone kit, two different terminal unit types or two independent comfort zones can be closely monitored. Domestic hot water production is made easy and can be interfaced with thermal solar panels.

Features

- Reversible operation.
- Electric booster heater or boiler back-up.
- Auto-adaptative weather compensation control.
- Dual comfort zone with independent control of two terminal unit types.
- Domestic hot water production control with possible interfacing with thermal solar panels.
- Easy-to-read user interface with weekly scheduling and quick-access settings: comfort, eco and night mode.
- Swimming pool heating control (optional)
- Heat exchanger to create primary and secondary water loop when using frost protection (optional field installation in comfort module)
- Circulation pump with high head pressure (optional)

New user interface

- The comfort module has an easy-to-use user interface with easy-to-read LCD screen. It provides enhanced control capability for maximised performance, reliability and indoor comfort and has extended programming features such as weekly scheduling. The sleek contemporary design blends in with any room decor.



Two-zone kit

- The new design facilitates the installation process and makes two independent comfort zones easy to control. This kit includes a hydronic disconnection collector, the necessary circulating pumps and modulating valve. Installed together with the domestic hot water tank, the two-zone kit can integrate all accessories, such as the diverting valve and T-connection.



Domestic hot water tank

- With or without connection to a thermal solar panel, 200 or 300-litre tank. Built-in electric heater back-up and anti-legionella protection, controlled by the comfort module, make domestic hot water readily available, safe and energy-efficient.



Swimming pool heating control kit

- This control box, fitted with all necessary sensors and for wall-mounting next to the comfort module, controls swimming pool heating, using the heat pump. Hot water from the heat pump is sent from the space heating system to the swimming pool by controlling a diverting valve similar to the one used for domestic hot water (field supply). Swimming pool heating can be in accordance with a time schedule that defines priorities between space heating/cooling, domestic hot-water production and swimming pool heating. An field-supplied intermediate heat exchanger, fitted with the necessary circulating pumps, is mandatory to ensure that water from the swimming pool is not used for the space heating system.

Intermediate heat exchanger

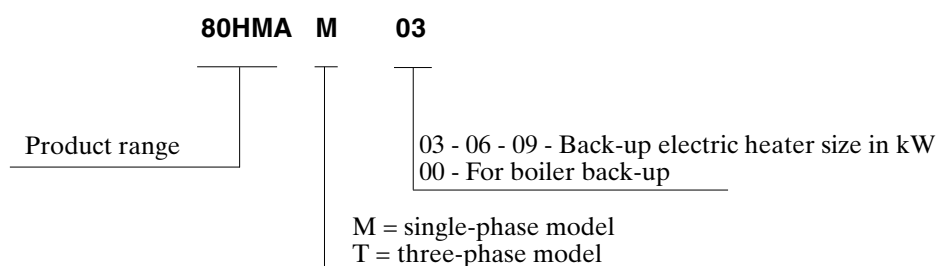
- When adding antifreeze to the water loop, this option allows limiting the use of antifreeze between heat pump and comfort module by creating a primary and secondary water loop.

Heat pump compatibility

- All 30AWH-HC sizes are compatible with the 80HMA comfort module range. Comfort module controls can also manage up to eight 30AWH units. A parallel hydronic coupling of the unit to a tank is necessary (field supply).
- 30RQ 017 to 021 and 61AF 014 to 019 units are also compatible, but the water volume of this installation must be checked by a professional and comply with the heat pump size minimum requirements. Depending on the terminal unit type installed with the Carrier system a buffer tank may have to be added.

Type key

Indoor unit (comfort module)



Unit description

Part number	
80HMA-M00	Indoor unit, reversible, 1 zone, for boiler back-up
80HMA-M03	Indoor unit, reversible, 1 zone, 3 kW 1-ph electric heater back up
80HMA-M06	Indoor unit, reversible, 1 zone, 6 kW 1-ph electric heater back up
80HMA-T06	Indoor unit, reversible, 1 zone, 6 kW 3-ph electric heater back up
80HMA-T09	Indoor unit, reversible, 1 zone, 9 kW 3-ph electric heater back up

Combination table, indoor and outdoor units

Outdoor unit (heat pump)	Indoor unit (comfort module)
30AWH04HC Nominal capacity 4 kW	80HMA-M00 Reversible, 1 zone, maximum heating capacity 20 kW for boiler back-up application
30AWH06HC Nominal capacity 6 kW	80HMA-M03 Reversible, 1 zone, maximum heating capacity 20 kW with 3 kW 1-phase electrical heater booster
30AWH08HC Nominal capacity 8 kW	80HMA-M06 Reversible, 1 zone, maximum heating capacity 20 kW with 6 kW 1-phase electrical heater booster
30AWH12HC Nominal capacity 12 kW	80HMA-T06 Reversible, 1 zone, maximum heating capacity 20 kW with 6 kW 3-phase electrical heater booster
30AWH15HC Nominal capacity 15 kW	80HMA-T09 Reversible, 1 zone, maximum heating capacity 20 kW with 9 kW 3-phase electrical heater booster

NOTE: All 30AWH sizes are compatible with the 80HMA comfort module range. Comfort module controls can also manage up to eight 30AWH units. A parallel hydronic coupling of the unit to a tank is necessary (field supply). 30RQ 017 to 021 and 61AF 014 to 019 units are also compatible, but the water volume of this installation must be checked by a professional and comply with the heat pump size minimum requirements. Depending on the terminal unit type installed with the Carrier system a buffer tank may have to be added.

Accessories

Part No.	Description	Advantages	Use
33AW-CB02	Communication kit	To be installed in 30AWH	30AW---HC
33AW-CS3	Additional user interface	Monitors two independent comfort zones or used together with comfort module interface	80HMA, 80HMA-9001, 80HMA-9002
33AW-RAS02	Remote outdoor sensor	Positioned in the right place, the OAT sensor maximises comfort compared to using the condensing unit OAT sensor.	80HMA
60STS020E03	Domestic hot water tank, 1 coil - 200 l	Storage, 200 l of domestic hot water	80HMA
60STS030E03	Domestic hot water tank, 1 coil - 300 l	Storage, 300 l of domestic hot water	80HMA
60STD020E03	Domestic hot water tank, 2 coils - 200 l	Storage, 200 l of domestic hot water with thermal solar panel connection	80HMA
60STD030E03	Domestic hot water tank, 2 coils - 300 l	Storage, 300 l of domestic hot water with thermal solar panel connection	80HMA
80AW9023	Domestic hot-water three-way valve and actuator	Necessary to connect domestic hot water tank.	80HMA, 60ST, 80HMA-9002
80AW9024	Thermal cut-out, floor heating	Stops circulation pump when supply temperature is too high	80HMA, 80HMA-9001, 80HMA-9002
80AW9026	Piping kit to install domestic hot-water valve and actuator (80AW9023) inside the unit	Specific DHW piping kit for the installation, used together with 80HMA-9001	30HMA-9001
80AW9027	Cover panel to install two-zone kit (80HMA-9001) detached from comfort module	Hides piping and connections, if two-zone kit is installed remotely from the main comfort module.	80HMA-9001
80AW9028	Kit to add three-way valve and actuator in second zone	Necessary to include domestic hot-water three-way valve in second zone kit	80HMA-9001
80HMA-9001	Two-zone kit	Allows independent control of two comfort zones	80HMA
80HMA-9002	Pool kit	Control box with all necessary sensors required to control three-way valve to divert flow	80HMA
80HMA-9003	Pump kit	Necessary when available heat pump pressure is too low for the installation	80HMA
80HMA-9004	BPHE kit (for heat pumps up to 8 kW)	Separate heat pump loop (with glycol) from indoor loop; includes BPHE and pump	80HMA
80HMA-9005	BPHE kit (for heat pumps up to 16 kW)	Separate heat pump loop (with glycol) from indoor loop; includes BPHE and pump	80HMA

Physical data

Indoor unit (comfort module)		80HMA-M00	80HMA-M03	80HMA-M06	80HMA-T06	80HMA-T09
Number of comfort zones		1	1	1	1	1
Electric booster element	kW	0	3	6	6	9
Number of auxiliary heating steps		1 (external boiler)	1	3	3	3
Connection of back-up boiler		Yes	No	No	No	No
Dimensions, H x L x D	mm	800 x 450 x 320	800 x 450 x 320	800 x 450 x 320	800 x 450 x 320	800 x 450 x 320
Operating weight	kg	34	35	35	35	35
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	400-3-50	400-3-50
Recommended circuit breaker size		C6	C20	C32	C16	C20

Electrical data

Comfort module 80HMA		M00	M03	M06	T06	T09
Power supply	V-ph-Hz	230-1-50	230-1-50	230-1-50	400-3-50	400-3-50
Voltage range	V	207-253	207-253	207-253	360-400	360-400
Max. power consumption, board and auxiliary devices	kW	1.15	1.15	1.15	1.15	1.15
Board and auxiliary circuit breaker protection (not included)		C6	C6	C6	C6	C6
Electric heater power consumption	kW	0	3	6	6	9
Electric heater circuit breaker protection (not included)		C6	C20	C32	C16	C20
Max. operating current	A	5	18	31	14	18
Main power cable size	mm ²	3G x 2.5	3G x 4	3G x 6	5G x 2.5	5G x 4
Communication cable (FROH2R)	mm ²	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75	2 x 0.75
User interface (additional or remote) cable (FROH2R)	mm ²	4 x 0.75	4 x 0.75	4 x 0.75	4 x 0.75	4 x 0.75
Booster heater power supply cable (H05VV-F)	mm ²	3G x 2.5	3G x 2.5	3G x 2.5	3G x 2.5	3G x 2.5
Booster heater activation cable (FROH2R)	mm ²	2 x 1	2 x 1	2 x 1	2 x 1	2 x 1
Domestic hot water sensor cable (FROH2R)	mm ²	2 x 0.5	2 x 0.5	2 x 0.5	2 x 0.5	2 x 0.5
Remote outdoor sensor cable (FROH2R)	mm ²	2 x 0.5	2 x 0.5	2 x 0.5	2 x 0.5	2 x 0.5

Note: The heat pump data depends on the heat pump used.

Sound levels, indoor units

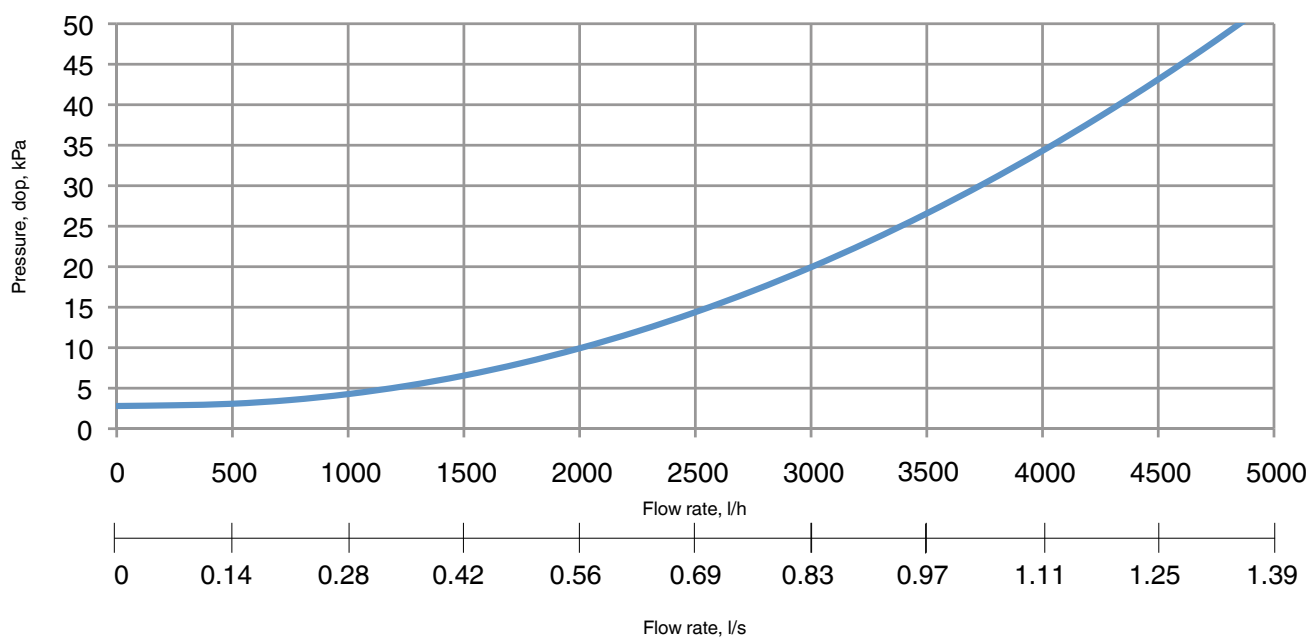
Sound power level	dB(A)	0
Sound pressure level	dB(A)	0

* The comfort module has no running parts.

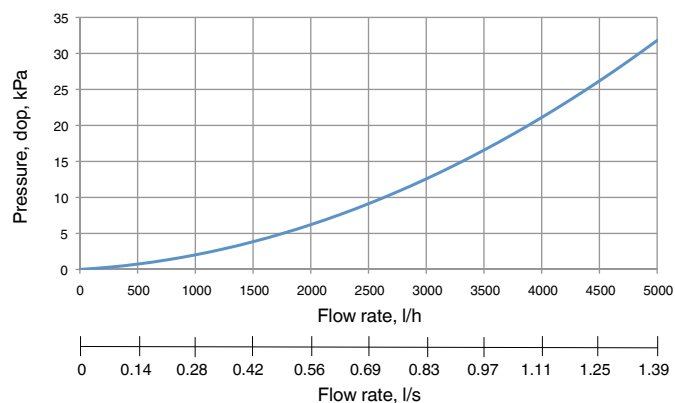
Operating limits

Heat pump limits	Depends on the heat pump selected
Comfort module limits	
Indoor temperature	5-30°C
Water temperature, cooling	4-18°C
Water temperature, heating	20-80°C

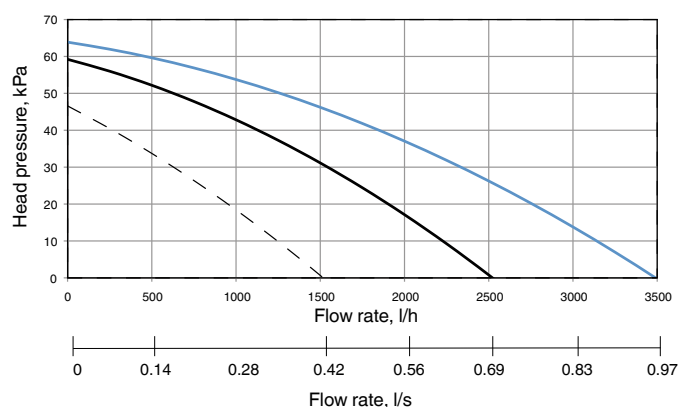
Pressure drop, comfort module



Pressure drop, comfort module plus pump kit



Head pressure, comfort module plus pump kit

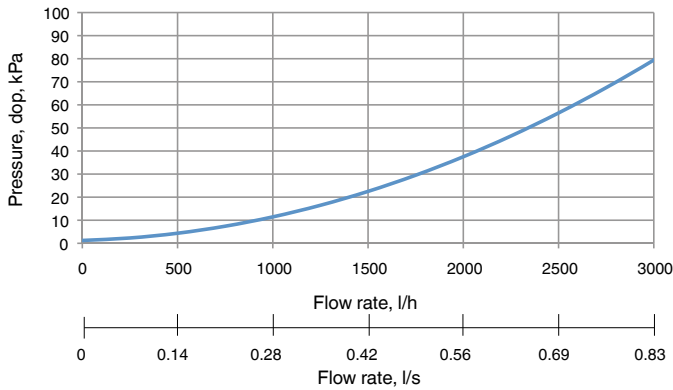


The pump kit is required when the available heat pump pressure is too low to cover the system pressure drop. The water pump in the heat pump will then be used to irrigate the comfort module buffer tank and the additional comfort module pump is used to distribute the heat from the comfort module buffer tank to the terminal units.

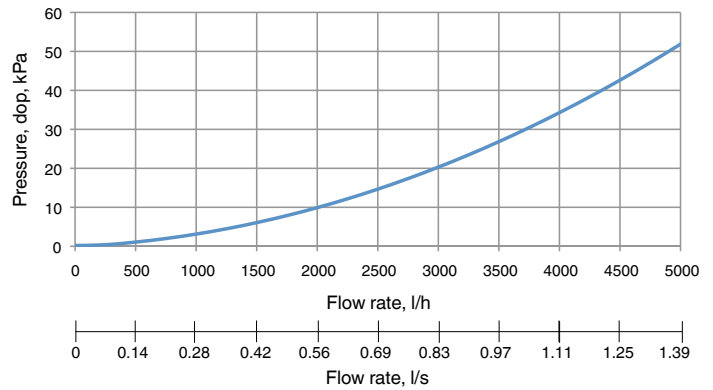
- High speed
- Medium speed
- - - Low speed

Pressure drop, comfort module plus BPHE kit

With 8 kW BPHE kit

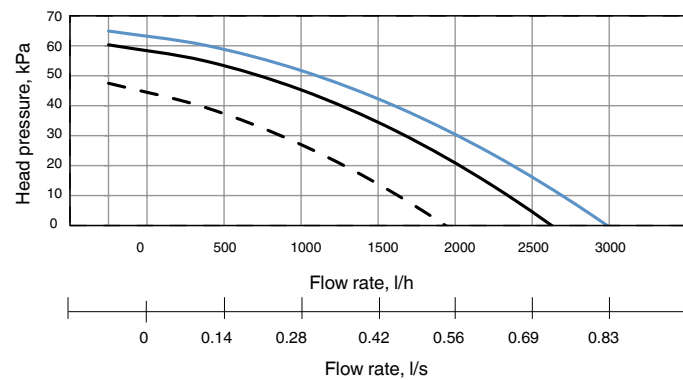


With 16 kW BPHE kit

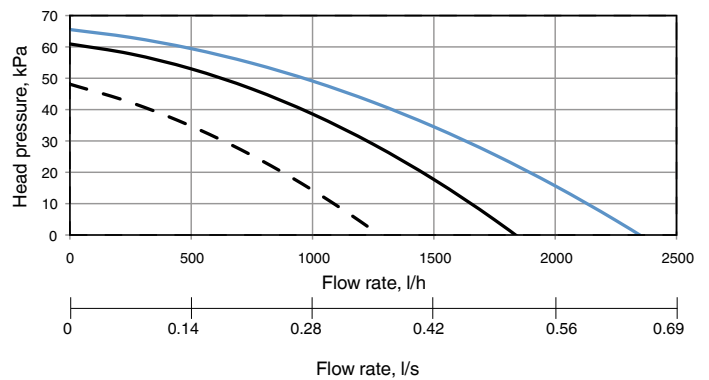


Head pressure, comfort module plus BPHE kit

With 8 kW BPHE kit



With 16 kW BPHE kit



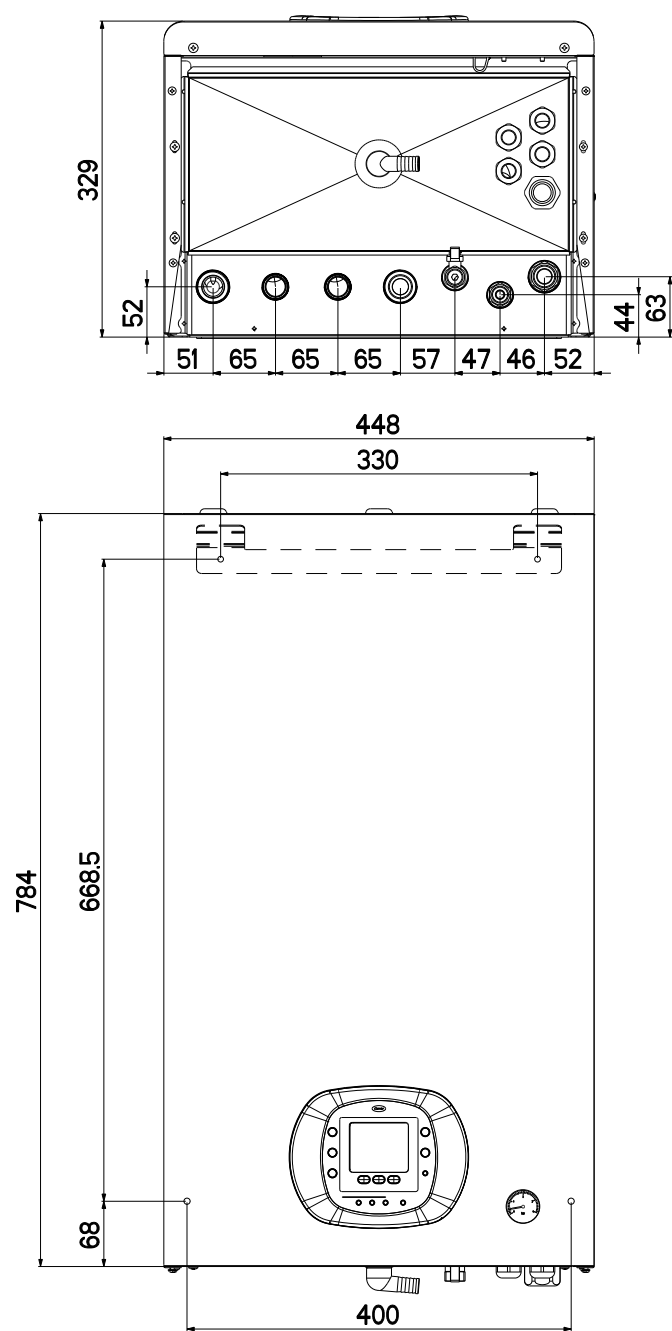
— High speed
— Medium speed
- - - Low speed

— High speed
— Medium speed
- - - Low speed

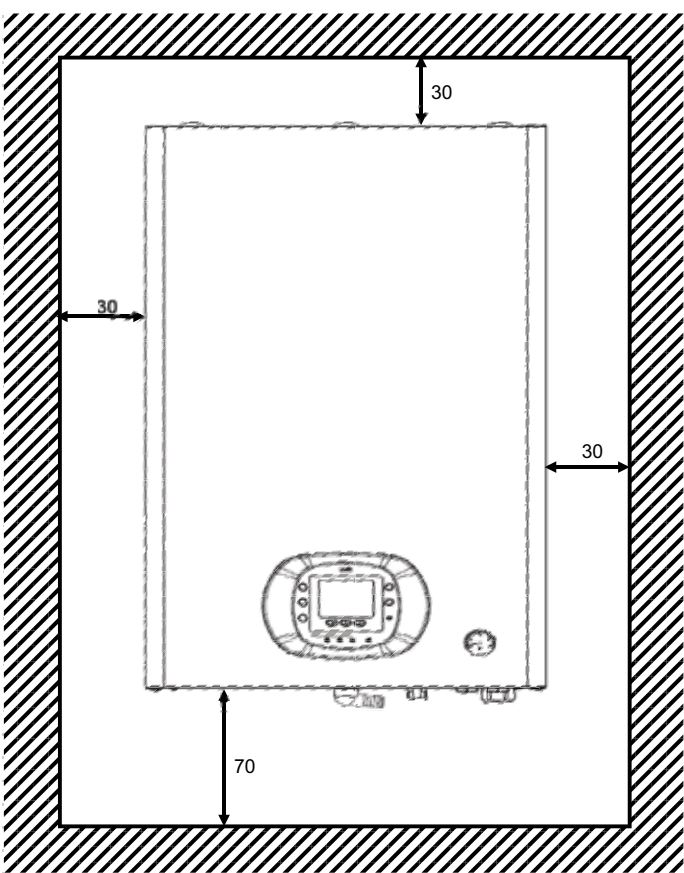
The comfort module BPHE kit includes a heat exchanger and a circulating pump. It creates two independent water loops, one between heat pump and comfort module buffer tank and the other between the comfort module and the terminal units. If the heat pump is used for heating only applications, this option allows limiting the use of antifreeze protection between heat pump and comfort module.

Dimensions, comfort module

Clearances, comfort module



Note: All dimensions are in millimetres.



Physical data, two-zone kit

Dimensions		
Unit H x L x D	mm	485 x 450 x 330
Packaging H x L x D	mm	565 x 530 x 410
Unit weight		
Gross weight	kg	22
	kg	27
Hydronic data		
Water connections	in	1" male
Operating water pressure	kPa (bar)	100 (1)
Maximum pressure	kPa (bar)	300 (3)
Hydronic components		
Pump		Two water-cooled pumps, three speeds, 70 kPa static pressure
Three-way valve		One modulating valve, 6.3 Kv, switching time (90°) 240 seconds, 230-V, 3-point SPDT actuator
Collector volume	l	1
Draining valve		✓
Outside air operating range, heating and cooling		See Comfort module

Electrical data, two-zone kit

Power supply	V-ph-Hz	230-1-50
Voltage range	V	207-253
Power input	W	260

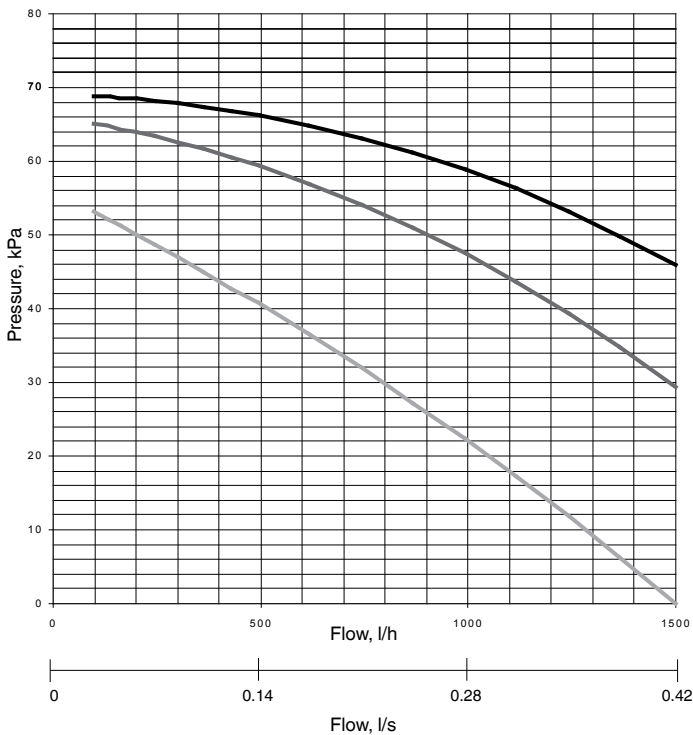
Sound levels, two-zone kit

		Without comfort module	With comfort module
Sound power level	dB(A)	44	44
Sound pressure level*	dB(A)	30	30

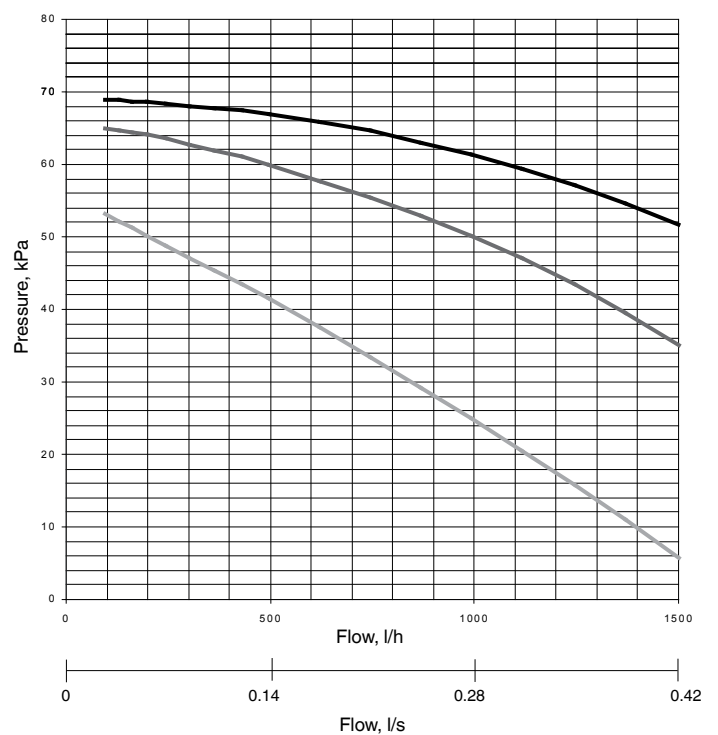
* Measured at 2 m distance, in accordance with UNI EN ISO 3741.

Available static pressure, two-zone kit

Zone with modulating valve

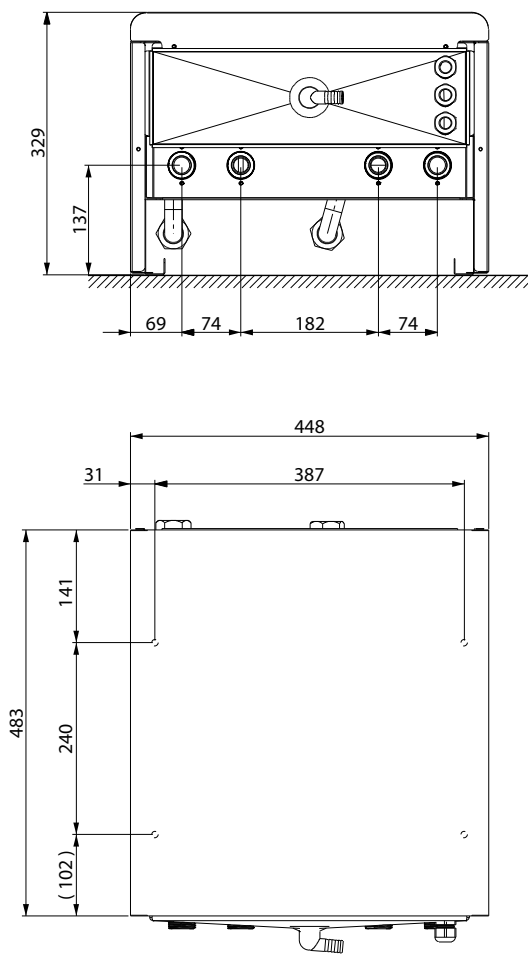


Zone without modulating valve



- High water pump speed
- Medium water pump speed
- Low water pump speed

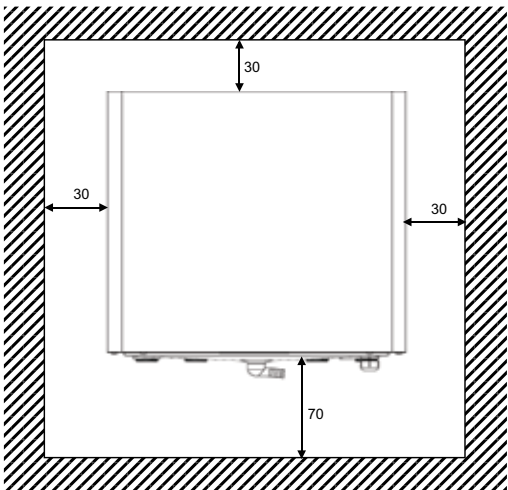
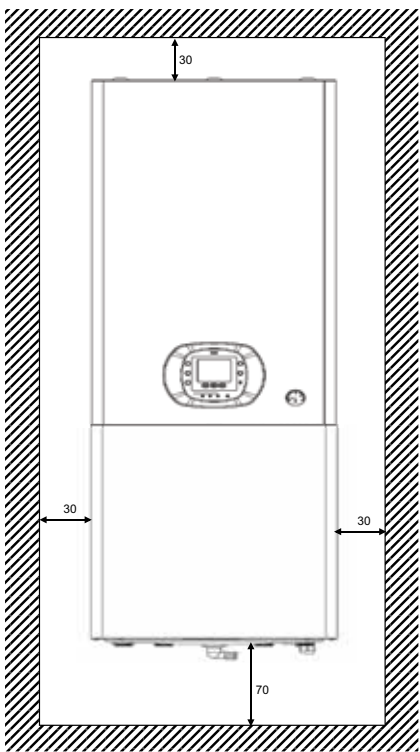
Dimensions (mm), two-zone kit



Clearances (mm), two-zone kit

Connected to the comfort module

Detached from the comfort module



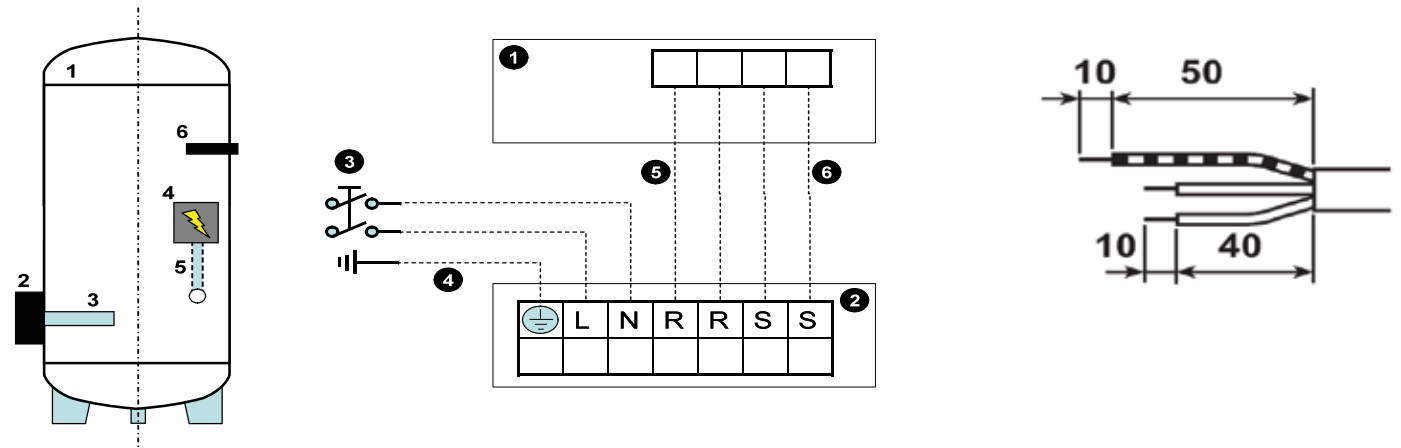
Physical data, domestic hot water (DHW) module

		60STS 020E03	60STD 020E03	60STS 030E03	60STD 030E03
Water tank size	l	212	212	291	291
Number of coils		1	2	1	2
Electric heater back-up	kW	3.3, single-phase	3.3, single-phase	3.3, single-phase	3.3, single-phase
Voltage	V	230 ± 10%	230 ± 10%	230 ± 10%	230 ± 10%
Operating temperature range	°C	5 to 95	5 to 95	5 to 95	5 to 95
Operating pressure DHW module	bar	0 to 10	0 to 10	0 to 10	0 to 10
Operating pressure heat exchangers	bar	0 to 6	0 to 6	0 to 6	0 to 6
Ambient operating temperature range	°C	5 to 45°C	5 to 45°C	5 to 45°C	5 to 45°C
Storage temperature range	°C	-20 to +75°C	-20 to +75°C	-20 to +75°C	-20 to +75°C
Lower heat exchanger	m²	1.2	1.2	1.5	1.5
Upper heat exchanger	m²		0.5		1.1
Diameter	mm	600	600	600	600
Height	mm	1215	1215	1615	1615



Electrical data, domestic hot water (DHW) module

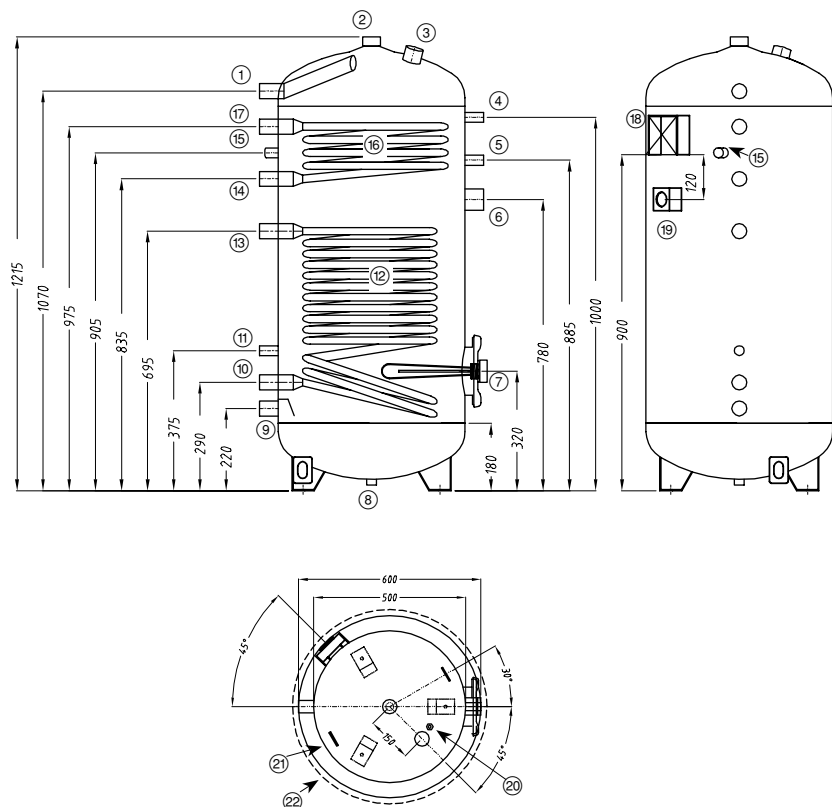
Model	60ST-020/60ST-030		Cable type and size (4): H05VV-F	3G x 2.5 mm²
Maximum operating current	A	15	Cable type and size (5): FROH2R	2 x 1 mm²
Power supply	V-ph-Hz	230-1-50	Cable type and size (6): FROH2R	2 x 0.5 mm²
Voltage range	V	207-253		



1. Main unit
2. Domestic hot water tank control box
3. Circuit breaker
4. Mains supply connecting cable
5. Booster heater activation cable
6. Temperature sensor cable

 Earth
 L Live power supply
 N Neutral power supply

Dimensions (mm), domestic hot water (DHW) module

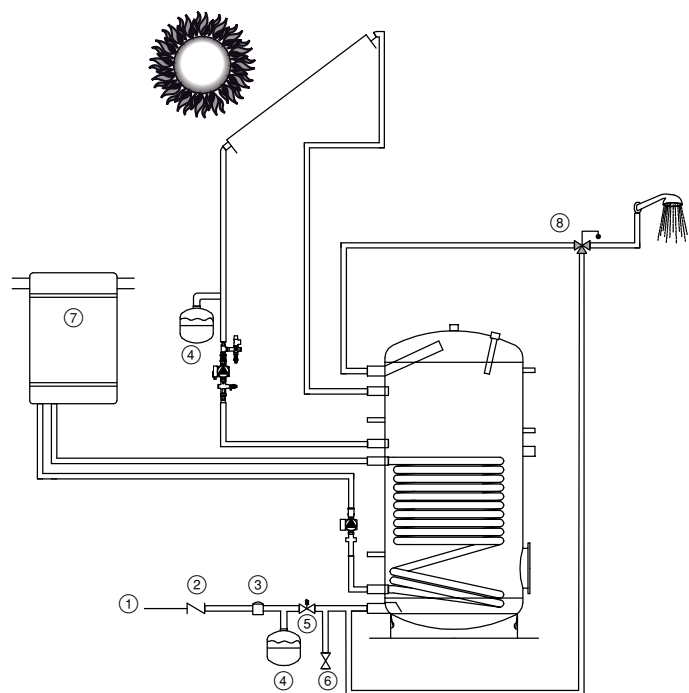


Legend

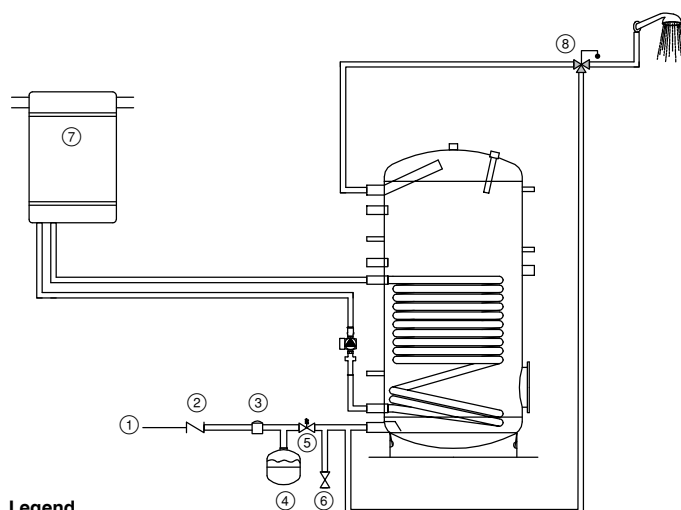
- 1 Water outlet (hot water)
- 2 Water outlet (hot water)
- 3 Anode connection
- 4 Connection for temperature sensor/pressure gauge
- 5 Connection for temperature sensor/pressure gauge
- 6 Connection
- 7 Electric heater (flange-mounted)
- 8 Fastening hole
- 9 Water inlet (cold water)
- 10 Lower coil outlet
- 11 Connection for temperature sensor/pressure gauge
- 12 Lower coil
- 13 Lower coil inlet
- 14 Upper coil outlet
- 15 Temperature sensor
- 16 Upper coil
- 17 Upper coil inlet
- 18 Control box
- 19 Cable holder
- 20 M6 nut earth
- 21 Insulation
- 22 Aesthetical cover

Typical installation diagrams, domestic hot water (DHW) module

System with solar panel and tanks
60STD 020E03 or 60STD 030E03



System without solar panel and tanks
60STS 020E03 or 60STS 030E03



Legend

- ① Water circuit
- ② Check valve
- ③ Pressure reduction device
- ④ Expansion tank
- ⑤ Safety valve
- ⑥ Drain valve
- ⑦ Boiler
- ⑧ Thermostatic valve



Order No.: 18405-20, 04.2012. Supersedes order No.: New.
Manufacturer reserves the right to change any product specifications without notice.



Environmental
Management
Systems

Manufactured by: Carrier SpA, Villasanta, Italy.
Printed in the European Union.